

BC Hydro Power Smart Partners Transmission Industrial Program

An Energy Management program for
BC's Industrial Sector

CPUC CEI Workshop, June 18, 2009

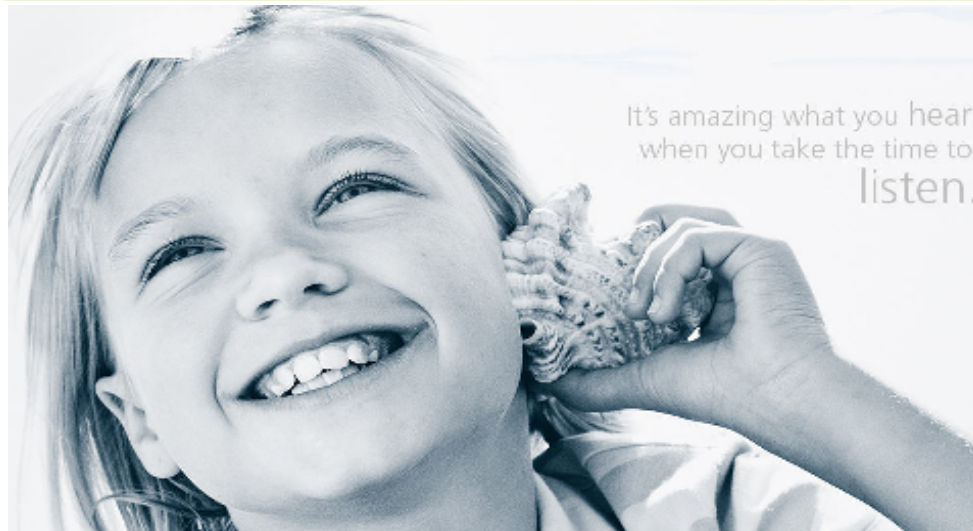
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Outline



- BC Hydro Background
- Transmission Service Rate (TSR)
- Partners Program Offering
- Program Development

BC Hydro Business Overview



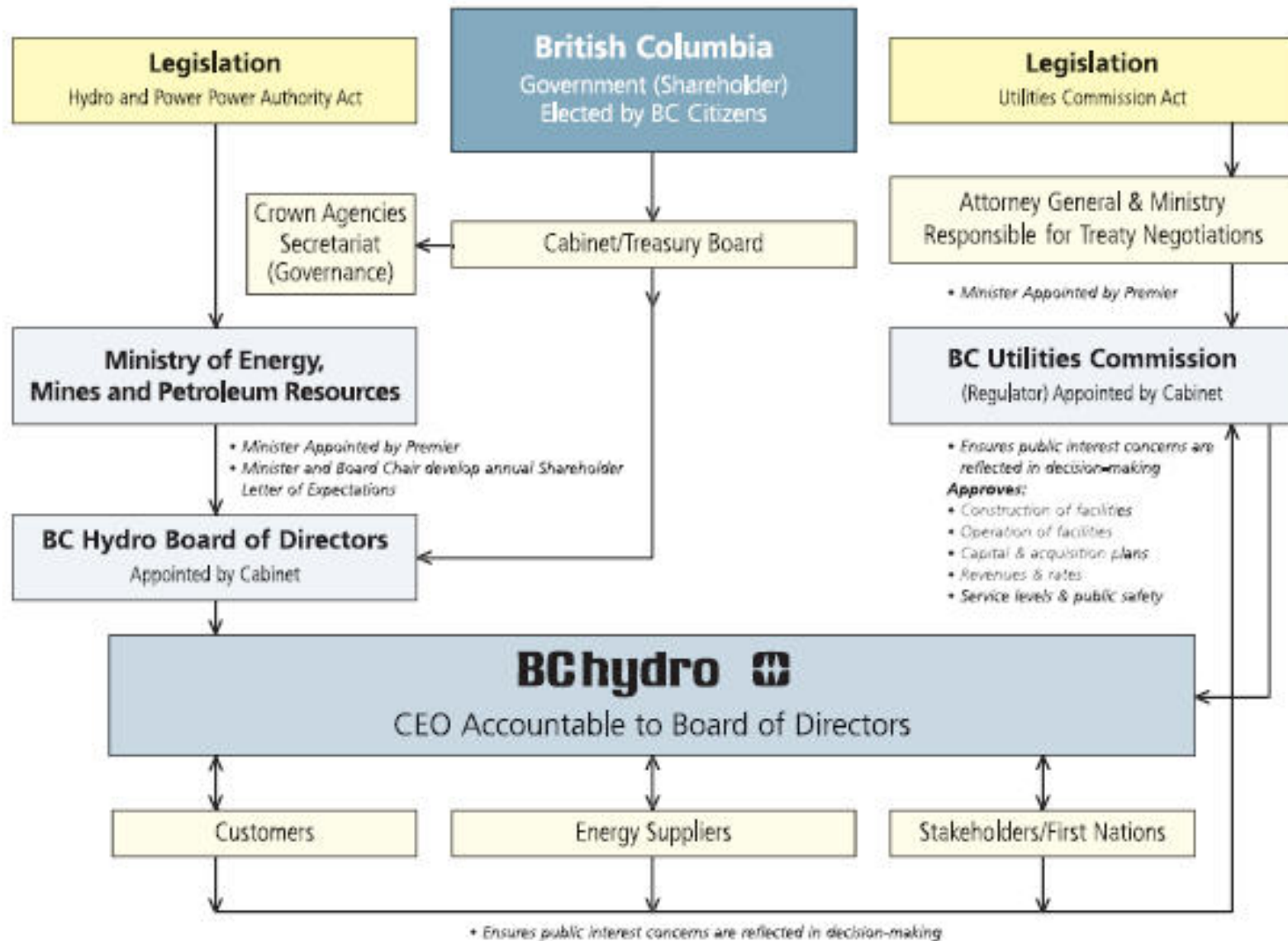
WE SELL ELECTRICITY

- Residential
- Commercial
- Industrial
- Market/Trade

Domestic Energy Sales	\$M	%	GWh	%	\$/MWh
Residential	1,046	39%	16,261	31%	64
Light industrial + commercial	989	36%	17,913	34%	55
Large industrial	584	22%	16,428	31%	36
Other energy sales	91	3%	1,838	4%	50
Total	2,710		52,440		52

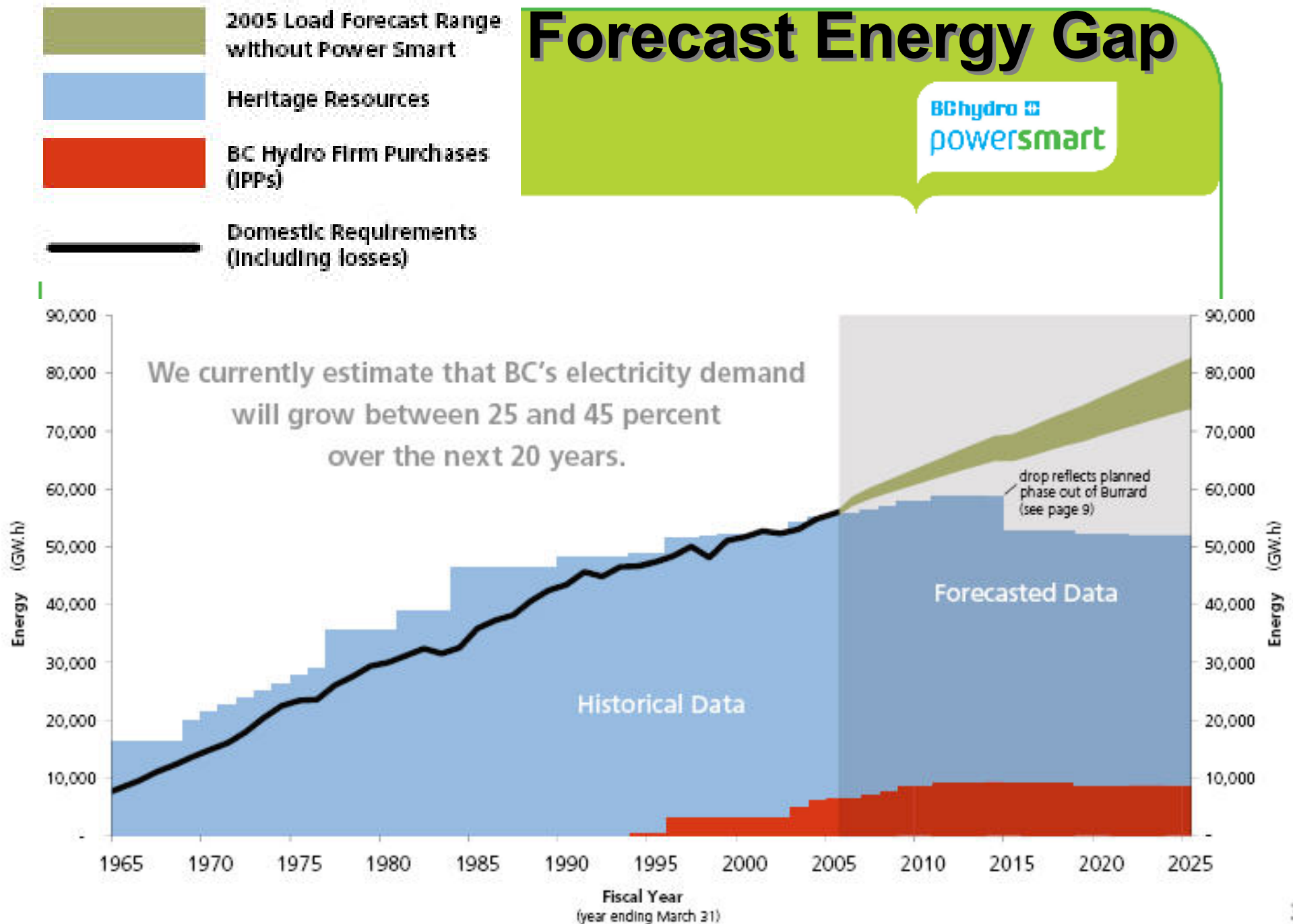
Regulatory Relationship Framework

BC Hydro



Forecast Energy Gap

BC Hydro  powersmart



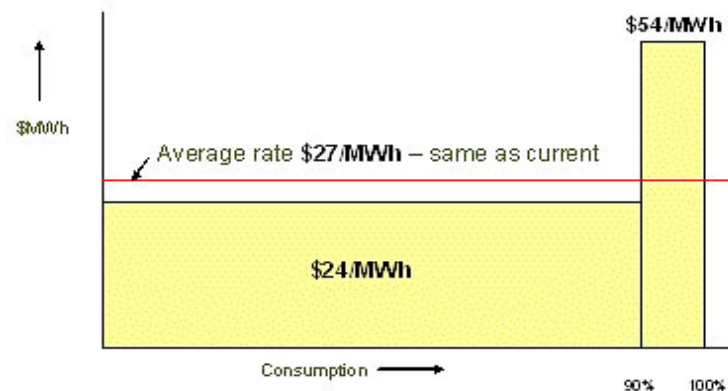
Why Implement the Program now?



- Conservation Rate, Inverted Block pricing model – implemented as of April 1st, 2006 (aka Stepped Rates)

- Balance between revenue loss
DSM rate of return
- Incentive built into rate

Stepped Rates – The Concept



- What it means to customer:
 - 10% of Customer Base Line (CBL) priced at \$73.60/MWh
 - 90% of CBL priced at \$24/MWh
 - Do nothing or blended rate is ~\$30/MWh
 - Incentives available at \$20/MWh for hard-wired projects

What is energy management?

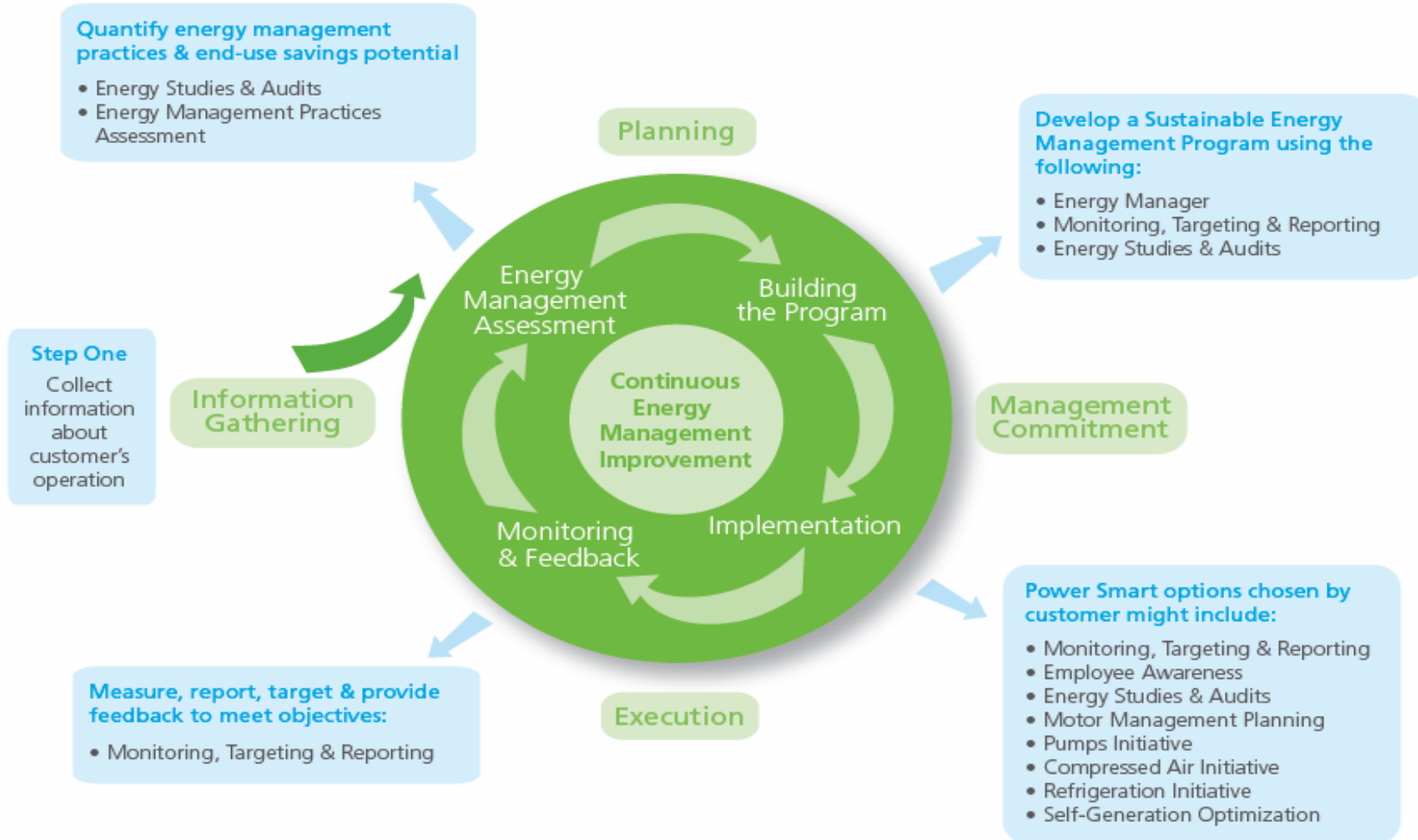


Five Prevailing Industrial Strategies*:

- ❖ DO NOTHING
- ❖ PRICE-SHOP FOR FUEL
- ❖ OCCASIONAL, LOW-BUDGET PROJECTS
- ❖ LARGE, CAPITAL PROJECTS
- ❖ CONTINUOUS ENERGY IMPROVEMENT

* *Alliance to Save Energy*

Energy Management & Continuous Improvement



Program Development

1. Conceptual Design



Based on the spectrum of energy management in the marketplace, offer two tiers of the program:

- Enabler stream, **a la carte**
- Sustainable Energy Management Program (SEMP), **integrated**
- Provide energy management enabler support at all phases of sustainable energy management

PSP-T Business Case

2. Modelling of KPI's



KPI Status	Measure	Target (Business Case)	Actual	
			w/o Generation	w/ Generation
Energy Savings exceeded	GWh	163	222	650

Detailed PS Partners –

3. Transmission detailed design



- Industrial Energy Manager initiative
 - Sustainable Energy Management Plan
 - Scope of Work
 - Screening

How is SEMP stream eligibility determined?

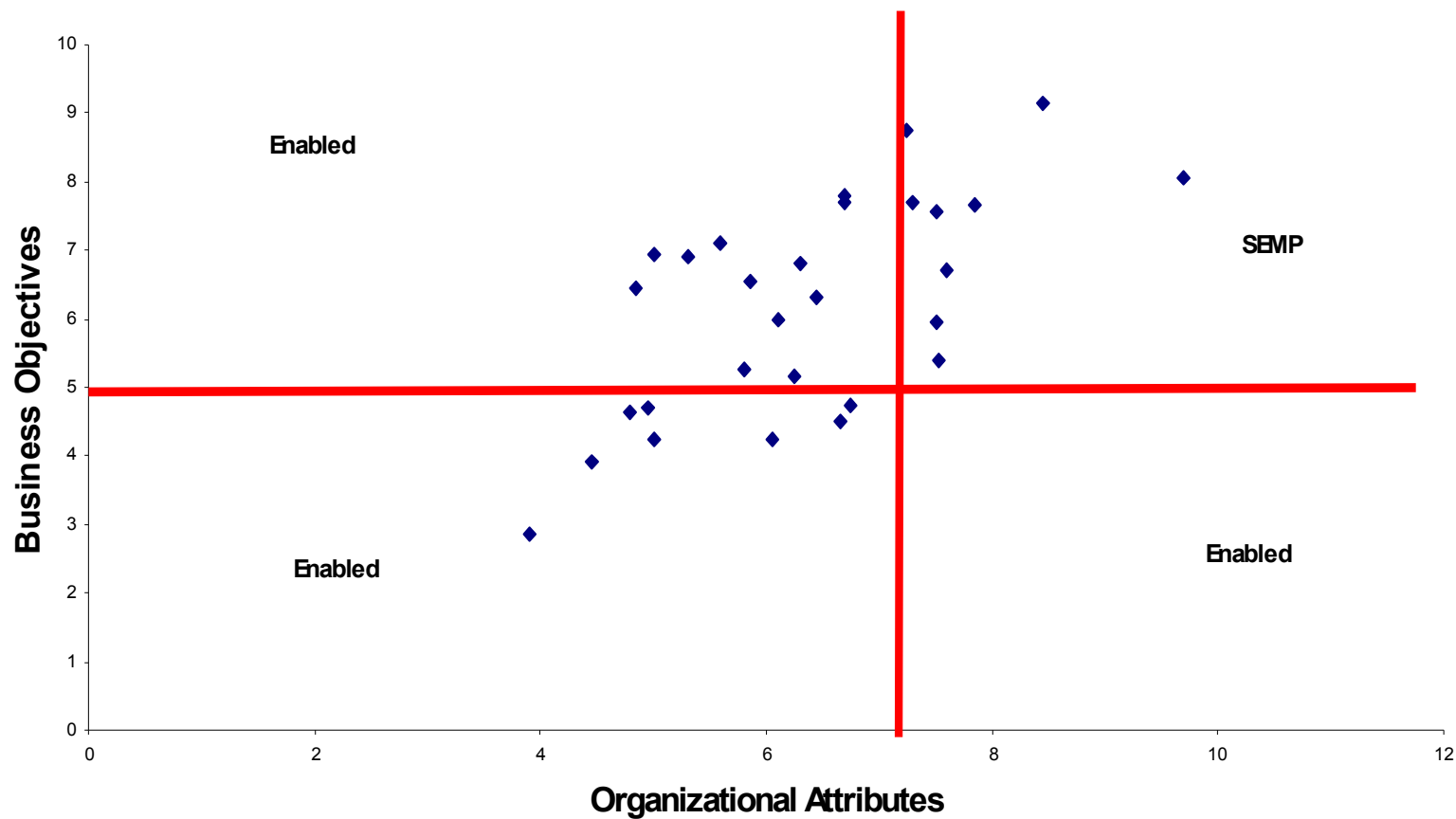


- Customer assessment
 - A high **Organizational Attribute** score indicates that the customer is well positioned to implement a sophisticated Energy Management Program.
 - A high **Business Objective** score indicates that a customer has business objectives which are very much in line with the objectives of an energy management program.

CSA Results



Customer Situation Assessment - SEMP Selection



Target CSA Customers



Customer	Organizational Attribute Score	Business Objective Score	Rank
Toyota CAPTIN	9.70	8.05	1
Taylor NGL	8.45	9.15	2
Graymont	7.25	8.75	3
Husky	7.85	7.65	4
Lafarge	7.50	7.55	5
Catalyst	7.30	7.70	6
Gibraltar Mines	6.70	7.80	7
Howe Sound P&P	6.70	7.70	8
Highland Valley Copper	7.60	6.70	9

Program Implementation



- Industrial Energy Manager (IEM)
 - Scope of Work
 - Energy Management Team (EMT)
 - SEMP
 - Quarterly Reporting
 - Other initiatives
- Direct sales force (Key Account Managers)
- Association IEM's: 3rd Party
- Consortium IEM's: 3rd Party

The IEM with SEMP program features and options



- Scope of Work vs a fixed form
- Options related to:
 - Duration (1 yr, +6mth to 2 yrs)
 - Energy Manager addition of:
 - SEMP workshop
 - Energy Management Assessment
 - Audits, Studies
 - MTR, etc
 - Employee awareness
 - **Contracting relationship**
 - Reporting format (monthly vs quarterly)

Power Smart Industrial Energy Manager Scope of Work
Industrial Energy Manager Initiative with
Sustainable Energy Management Program (SEMP)

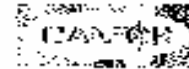
Energy Manager Start Date:			
Energy Manager Term:		<input type="radio"/> 12 months	<input type="radio"/> 18 months <input type="radio"/> 24 months
REPORT SUBMISSION DATES			
Quarterly Summary Reports:			
<input type="radio"/> 1 st Summary Report Submission date:			hrs
<input type="radio"/> Quarterly Summary Reports:			hrs
<input type="radio"/> 1 st Monthly Scorecard Submission date: (and continuing on one-month intervals)			hrs
Sustainable Energy Management Program (SEMP) workshop scheduling date:			
<input type="radio"/> SEMP Plan submission date:			hrs
ENERGY MANAGER PROGRAM DETAIL			
Electrical Energy Consumption <small>(For multiple sites, show break-out on separate sheet)</small>	Annual (last 12 months) self-generated electricity (MWh):		MWh
	Annual (last 12 months) purchased electricity (MWh):		MWh
	Total annual electrical energy consumption (MWh):		MWh
Information required to be gathered by Energy Manager (should include: consumption data, production data, KPI, benchmarking, load profiles, previous audits, preventative maintenance records, awareness programs, employee energy performance incentives and training records):			hrs
Date of most recent energy management assessment conducted (Corporate wide or plant specific):			
Proposed timing of energy audit or study (if applicable):			
Assessments to be conducted by Energy Manager (energy management practices auditing):			
Proposed timing for new energy management assessment (One-2-Five, Carbon Trust) (if applicable):			
Date of most recent plant wide energy audit or study conducted (plant wide or specific):			
Proposed timing for new energy audit or study (if applicable):			

Success in Implementation



Canadian Forest Products Ltd.

Taylor Pulp



Sustainable Energy Management Policy

Canadian Forest Products Ltd. - Taylor Pulp, recognizes that consumption of

Our organization is committed to:

- **A Sustainable Energy Management Plan (SEMP)**

- Providing and maintaining an Energy System Manual outlining responsibilities for each part of the management system. The Energy Management Representative will be responsible for the Energy System Manual.
- Establishing annual objectives for energy reduction and providing procedures and strategies to meet these objectives through operating and maintenance initiatives.



A handwritten signature in blue ink, likely belonging to Terry Bradford.

Terry Bradford
Divisional Manager
March 24, 2008

Thank You



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- **Courtesy of:**

Alex Adams
Industrial Program Manager
BC Hydro Power Smart